(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 14 July 2005 (14.07.2005) **PCT**

(10) International Publication Number WO 2005/062895 A3

(51) International Patent Classification7:

B28D 1/06

(21) International Application Number:

PCT/US2004/043146

(22) International Filing Date:

22 December 2004 (22.12.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10/744,690

23 December 2003 (23.12.2003) U

- (71) Applicant (for all designated States except US): DIA¬ MOND INNOVATIONS, INC. [US/US]; 6325 Huntley Road, Worthington, Ohio 43085 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): DOSSENA, Ernesto [IT/IT]; Via Santa Maria Bambina No 12, 1-20066 Melzo (IT). JAKOBUSS, Markus [DE/US]; 360 Nature Trail, Westerville, Ohio 43082 (US). KUEHN, Andre [DE/DE]; Alter Darmstaeder Weg 11, 64380 Rossodorf (DE). PROSKE, Kurt [DE/DE]; Lerchenweg 8, D-63303 Dreieich-Dreieichenhain (DE). TURNER, Dennis [US/US]; 4319 Blue River Court, Gahanna, Ohio 43230 (US). ZIMMERMAN, Michael H. [US/US]; 1463 Worthington Park Blvd., Westerville, Ohio 43081 (US).

- (74) Agents: SINGER, James M. et al.; Pepper Hamilton LLP, 50th Floor, 500 Grant Street, Pittsburgh, Pennsylvania 15219 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

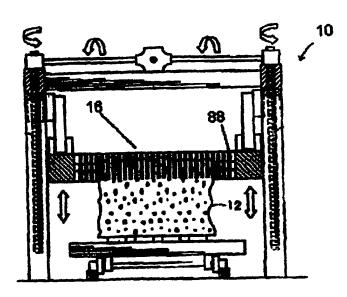
Published:

with international search report

(88) Date of publication of the international search report: 29 June 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: GRANITE SLABS CUT WITH FRAME SAW EMPLOYING BLADES WITH DIAMOND-CONTAINING SEGMENTS AND METHOD OF CUTTING THEREOF



(57) Abstract: A graphite block cut into slabs by a sawing device comprising a plurality of generally parallel, spaced-apart blades with each of the blades having a plurality of cutting segments mounted thereon, each of the cutting segments comprising a continuous phase impregnated with a superabrasive material selected from one of natural diamond, synthetic diamond, cubic boron nitride, and combinations thereof; wherein each of the granite slabs as cut from the block has a surface roughness Ra of less than 500 μ -in, and with thickness variation of 2 mm or less from a nominal slab target.

WO 2005/062895 A3 IIIII